

## In Memoriam: Mary Douglas Leakey (1913–1996)

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The death of Mary Douglas Leakey on December 9, 1996 has robbed the world of the last of a remarkable array of scholars who opened Africa's past to the light of research. They included Robert Broom, Miles Burkitt, Camille Arambourg, Raymond Dart, and Mary's husband and partner, Louis, who predeceased her by 24 years. Perhaps more than any other scholar, Mary Leakey patiently and perseveringly excavated many of Africa's secrets and pioneered new methods of field research in archaeology. Her most striking discoveries were the skull of *Proconsul* on Rusinga island, the cranium of the first east African australopithecine, *A. (Paranthropus) boisei*, at Olduvai Gorge and the fossil hominid footprints at Laetoli in Tanzania.

Mary Nicol was born in London, England, on February 6, 1913. She was educated, informally, by tutors and she supplemented their ministrations by her attendance at lectures in geology at University College, London, and archaeology at the London Museum in Lancaster House. Early drawn to archaeology, she entered the field without having been an undergraduate or postgraduate student in the usual sense. Like her father, Erskine Edward Nicol, Mary was a talented artist. Her skill in drawing stone tools brought her to the attention of Dorothy Liddell, whom Mary assisted in her excavation at Hembury in Devon, and of Gertrude Caton-Thompson who introduced Mary to L.S.B. Leakey, when he lectured to the Royal Anthropological Institute. In 1933, he invited her to illustrate his book, *Adam's Ancestors*.

After taking part in several more excavations in England, including one at Swanscombe with Louis Leakey, and another at Jaywick near Clacton, with Kenneth Oakley, she started working in Africa in 1935. In

the following year she became the second Mrs. L.S.B. Leakey. Thus started a signal husband-and-wife partnership in East African prehistory, which was to last for over 30 years.

It has been remarked wryly that Mary made many of Louis's greatest discoveries! The first noteworthy item was the skull of the Miocene hominoid, *Proconsul*, which she recovered on Rusinga Island in the Gulf of Kavirondo, Lake Victoria, on October 2, 1948. Another contribution was her study of the rock paintings at Kondoa-Irangi in Tanzania during 1951. Years later these were displayed in her book, *Africa's Vanishing Art: The Rock Paintings of Tanzania*. Kenya was the scene of many of her further "digs" in cave deposits and open sites. However, the centrepiece of her career was her work at Olduvai Gorge on the Serengeti Plains of northern Tanzania.

Before World War I, when Tanganyika was German East Africa, Hans Reck of Berlin found fossilised bones and a human skeleton at Olduvai. Reck believed the skeleton belonged to the Middle Pleistocene, but it was later shown to be a relatively recent burial. After the war, Reck ceded scientific "ownership" of Olduvai to L.S.B. Leakey, who was responsible for finding the first stone tools in the Gorge. Then there began a long series of excavations in the Gorge by Louis, Mary, their sons, and other helpers. Mary and Louis recovered numerous fossilised animal bones and stone tools, but for nearly a quarter of a century, save for a few rather indeterminate fragments, the skeletal remains of early hominids eluded them.

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Fig. 1. Photograph of Mary Douglas Leakey at Olduvai Gorge (middle ground), with volcano (background). Photograph was taken by Phillip V. Tobias about 1970.

On July 17, 1959, Mary discovered the well-preserved cranium of Olduvai hominid 5. To accommodate this very large-toothed but small-brained hominid, Louis erected a new genus and species *Zinjanthropus boisei*, "Zinj" being an old word for east Africa, "anthropus" meaning "man," while Charles Boise financed the excavations. In 1967, P.V. Tobias sank the genus *Zinjanthropus* into the genus *Australopithecus* (but as a subgenus). Whatever the name, Mary's 1959 find provided the first convincing evidence that australopithecines, previously known only from South Africa, had been represented also in East Africa. Moreover, it was the first hominid find of high antiquity to be securely dated by the then newly established potassium-argon dating technique: it turned out to be about 1.75 million years old. The discovery aroused intense excitement after it was announced at the opening session of

the Third Pan-African Congress of Prehistory and Palaeontology at Kinshasa (then still called Léopoldville) in August 1959. There followed a flurry of new researches in East Africa by visiting scholars and much new enthusiasm for the study of human evolution. True to her retiring nature, Mary eschewed the publicity and, with generous support from the National Geographic Society, she embarked on a programme of meticulous excavations in the Olduvai Gorge.

During the next two decades and more, she exposed the well-stratified deposits of the Olduvai Formation and revealed the archaeological sequence, numerous fossils of vertebrates including a number of hominid remains. In these studies, as in her earlier "digs" in Kenya, she made important contributions to the practice of field archaeology, including her pioneering work on "living floors" and on field musea, where imple-

ments and fossils were left in situ, partially exposed.

During these long-lasting and demanding studies, Mary revealed that stone tools of the Oldowan Culture were almost certainly not made by *Australopithecus boisei* (as Louis had claimed), but by another species of hominid, which she and her helpers brought to light. This second species L.S.B. Leakey, P.V. Tobias, and J.R. Napier called *Homo habilis* (the name having been suggested by R.A. Dart). Mary Leakey's technical reports on the Oldowan and Acheulean stone tools of Olduvai appeared as volumes 3 and 5, respectively, in the *Olduvai Gorge* series published by Cambridge University Press. A popular account is given in her book under the title *Olduvai Gorge: My Search for Early Man* (1979). The main part of volume 3 on the Oldowan industry describes excavations of no fewer than 10 occupation levels comprising living floors, in which the occupation debris is found on a palaeosol or old land surface; two butchering or kill sites, where artefacts were associated with the skeleton of a large mammal and with smaller animals; some 28 sites with artefacts and faunal remains diffused through a considerable thickness of clay or fine-grained tuff; and river or stream channel deposits from three sites in the Gorge. Through her accounts of all these "digs," there shines much evidence of the meticulous technique and painstaking attention to detail that characterised Mary Leakey's fieldwork, as well as her laboratory analyses.

An example is furnished by the evidence of early constructional activity at site DK. This remarkable stone circle probably "formed the base of a rough windbreak or simple shelter." Only the most alert and assiduous excavators would have detected this—or the pairs of hand axes lying together at TK, or the non-random distribution of artefacts and faunal remains on living floors, or would have searched an area of no less than 100 by 13 m for further parts of a damaged hominid skull—to be rewarded by her finding the temporal bone and the palate at a distance from each other of over 60 m! How exacting the work was may be illustrated by the situation on the floor at FLK: apart from the type specimen of *A.*

*boisei*, it yielded 2,275 artefacts and 3,510 bone specimens, not to speak of over 14,000 rodent remains from two levels at FLK North. The levels at FLK North even included small concentrations of crushed microfaunal bones, which, Mary suggested, might quite possibly represent the residue of hominid faeces!—so vividly and intimately did she re-create the pattern of life of the early hominids. On the relationships between hominids and stone industries, on patterns of evolutionary change, on ecological sensitivity of cultures and their wielders, Mary usually fought shy: she said she would rather leave the theorising to her husband! Many a time I heard her wither a new theory of Louis with some such remark as, "O Louis, where is your evidence?" and "Whoever will believe that?" "Give me the facts," she pleaded, and her life's work bore out how consistently she followed this approach.

A few years after her husband's death in 1972, Mary moved her seat of operations to Laetoli, southeast of Olduvai. Once again she began to make spectacular discoveries. From 1974 to 1981, numbers of new mammalian species were uncovered from the fossil record in the Laetolil Formation. They included hominid remains dated to about 3.7 million years ago, that is, some 2 million years older than the Olduvai australopithecine. The Laetoli hominid is different from both *A. boisei* and *H. habilis*. D. Johanson and T.D. White assigned it to a proposed new species, which they called *Australopithecus afarensis*.

Laetoli yielded to Mary's hands and eyes, and those of her helpers, including R.J. Clarke, a most unusual and eye-catching discovery. In the 1976 season at Laetoli, a remarkable array of fossil animal footprints were found, including four that appeared to be hominid. This was followed in 1978 by the uncovering of two long trails of indisputably fossil hominid footprints, these being dated to about 3.5–3.6 million years. They provided the first direct evidence of their kind, confirming what had previously been inferred from skeletal remains, namely that the Late Pliocene hominids, probably of the genus *Australopithecus*, were bipedal creatures. The revelation of the Laetoli footprints represents perhaps the greatest single

triumph in the uncovering of humanity's past, and it took a person of Mary's unusual skills and doggedness to deliver them to the world. Although others may argue over the question whether the foot that made the prints was exactly like that of modern humans (or at least of those who walk habitually unshod) or was possessed of a divergent great toe, it stands to Mary Leakey's credit to have given the world confirmatory hard facts that bipeds walked the face of Africa at the time of the australopithecines. The inferences from the bones of fossil hominids were thereby verified.

Mary Leakey remained unspoiled and unaffected by the fame which her discoveries brought her. She was an essentially private person and one of diffidence and modesty. Her love of the African bush, the peace of the veld and of her dalmatians (of which she was a renowned breeder), her fearlessness and independence of spirit, are some abiding features of her makeup. She did not suffer fools and pushing people lightly; side and affectation were foreign and repugnant to her. The first occasion on which she occupied the limelight, without the presence of Louis, was when in 1968 she received her first university degree, a Doctorate of Science *honoris causa* from the University of the Witwatersrand, Johannesburg. That recognition—which, she confided to the writer, she was actually beginning to enjoy a little—marked a turning point in her life. There followed greater independence of Louis, more confidence in her judgment, more willingness to draw her own conclusions from the fruits of her “digs.” She was willing thereafter to stand on her own feet, without losing that retiring nature.

An exceptional scholar and savant has gone from our midst. Happily some of her last thoughts on human evolution were captured on film when she came to South Africa in 1995 to be filmed by Paul Myburgh, along with colleagues from four continents, conversing around a campfire about the emergence and evolution of humanity. It was relaxed and “laid-back” conversation in an atmosphere that was conducive to Mary Leakey's living thoughts being expressed.

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